

line 4, replace "centring" with --centering--.

IN THE CLAIMS:

Please cancel Claim 1 without prejudice.

Please amend Claim 2 as follows:

2. (Amended) Test tube apparatus according to Claim [1] 19, wherein:

[characterized in that said surface or surfaces and] said container body [have, in] has
a substantially circular cross-section[, a form contained in a circular volume].

Please amend Claim 3 as follows:

3. (Amended) Test tube apparatus according to Claim [1 or 2] 19, wherein:

said [in which the container body (1) has a] cavity [(3) which] is essentially prismatic
and has an essentially rectangular cross-section;

[, and] a cylindrical connecting part [(5)] for filling[, characterized in that it has at least
one surface projecting] projects from said container body.

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Please amend Claim 4 as follows:

4. (Amended) Test tube apparatus according to Claim [1 or 2 or 3] 19, wherein:

said indicia wall [characterized in that said surface is a portion of a cylindrical wall,]

also [forming one of the walls] forms a wall of the container body [(Fig. 7)].

Please amend Claim 5 as follows:

5. (Amended) Test tube apparatus according to Claim [1 or 2 or 3] 19, wherein:
[characterized in that said surface] said indicia wall is formed by a flat laminar zone
projecting from [the] said container body.

Please amend Claim 6 as follows:

6. (Amended) Test tube apparatus according to Claim [1 or 2 or 3] 19, wherein:
[characterized in that said surface] said indicia wall is formed by a flat laminar zone
[(7)] developed as an extension of [one of the walls of the] a wall of said cavity parallel to [the]
a direction [(F)] of [the] said detection rays of an optical [analysing] analyzing system.

Please amend claim 7 as follows.

7. (Amended) Test tube apparatus according to Claim 6, wherein:
[characterized in that] said laminar zone [(7)] extends symmetrically on opposite sides
of [the essentially prismatic] said cavity [(3)], said cavity having a substantially prismatic
shape.

Please amend Claim 8 as follows:

8. (Amended) Test tube apparatus according to [Claims 6 or 7] Claim 6, wherein:

[characterized in that the] longitudinal edges [(7A, 7B)] of said laminar zone and an additional projection [(7C)] located at a distance from said edges define a volume of the test tube contained and [centred] centered in a cylindrical housing.

Please amend claim 9 as follows.

9. (Amended) Test tube apparatus according to Claim 8, wherein:

[characterized in that] said additional projection [(7C)] is longitudinal and is developed along [the] a plane of symmetry perpendicular to said laminar zone [(7)].

Please cancel claims 10 and 11 without prejudice.

Please amend claim 12 as follows.

12. (Amended) Test tube apparatus according to Claim [11] 19, wherein:

[characterized in that] said [flat laminar zone] indicia wall projects tangentially from the cylindrical container body.

Please amend claim 13 as follows.

13. (Amended) Test tube apparatus according to Claim 12, wherein:

[characterized in that] said [flat laminar zone] indicia wall projects on opposite sides of the cylindrical body.

Please amend claim 14 as follows.

14. (Amended) Test tube apparatus according to [at least] Claim [11] 19, wherein:
[characterized in that it comprises two flat laminar zones] two of said indicia walls
are provided on said container body and are substantially [which are-essentially] parallel and
spaced from one another.

Please amend Claim 15 as follows:

15. (Amended) Test tube apparatus according to Claim [1] 19, wherein:
[with a] said container body [which] has an essentially prismatic shape and a
rectangular cross-section;
[, characterized in that] a bar code is applied onto at least one of the walls
[essentially] substantially parallel to the detection rays [of the optical analysing system].

Please cancel claims 16 - 18 without prejudice and add the following new claims.

19. A test tube apparatus comprising:

a cylindrical container body defining a cavity capable of holding a sample, said
container body having a longitudinal axis and opposite walls extending along said
longitudinal axis, said opposite walls being formed of a material and a shape for passing
detection rays through said opposite walls and through said cavity;

an indicia wall connected to said container body and extending longitudinally along

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said container body, said indicia wall being spaced from said opposite walls and spaced from the detection rays, said indicia wall being receivable of optically readable information.

20. The apparatus in accordance with claim 19, wherein:

said indicia wall has a substantially flat surface substantially parallel with said longitudinal axis of said container body.

21. The apparatus in accordance with claim 19, wherein:

said indicia wall has a substantially flat surface substantially parallel to the detection rays.

22. The apparatus in accordance with claim 19, wherein:

said indicia wall is non-intersecting of the detection rays, and said indicia wall is in a plane substantially parallel with said longitudinal axis of said container body, said indicia wall has a substantially flat surface substantially parallel to the detection rays.

23. The apparatus in accordance with claim 20, wherein:

said substantially flat surface has a width larger than a distance between said opposite walls.

24. The apparatus in accordance with claim 22, wherein:

said indicia wall extends away and outward from said container body;

 said indicia wall extends in a plane substantially parallel to said longitudinal axis of
 said container body;

 said substantially flat surface of said indicia wall has a width larger than a distance
 between said opposite walls;

 said cavity has a length in a direction of said longitudinal axis and a width in a
 direction substantially perpendicular to said longitudinal axis, said length having a magnitude
 which is greater than a plurality of multiples of a maximum said width;

 an optical detector travels along said container body and detects the sample in said
 container body by passage of the detection rays through said container body;

 an indicia reader means travels along said container body and reads data on said
 indicia wall.

25. The apparatus in accordance with claim 19, wherein:

 said container body and said indicia wall form longitudinal edges for centering and
 supporting said container body in a seat.

26. The apparatus in accordance with claim 19, further comprising:

 optical detection means for traveling along said container body and detecting the
 sample in said container body by passage of the detection rays through said container body;
 indicia reading means for traveling along said container body and reading data on

said indicia wall.

REMARKS

The specification, abstract and claims have been amended to address the Examiner's rejections in the parent application and to place the application in better form. The claims have also been amended to further highlight and more clearly point out the important features of the invention.

In particular, claim 24 has been added to set forth features which have not been previously claimed in the parent application.

Claim 19 in the parent application has been rejected as being anticipated by Froelich. New claim 19 sets forth a cylindrical container body defining a cavity which in the preferred embodiment is shown by reference numeral 3. Portions of the cylindrical container body are shown in the preferred embodiment by reference numerals 3a and 3b. Applicant notes that according to a strict geometrical definition of a cylinder, the cross-section of a cylinder does not need to be circular. New claim 19 also sets forth an indicia wall which is shown in the preferred embodiment by reference numeral 7. This indicia wall is set forth as extending longitudinally along the container body. This longitudinal extension is shown in Figs. 1 and 2 as the indicia wall 7 extending from the top to the bottom of the figures.

Applicant has reviewed the reference of Froelich, and finds no teaching nor suggestion of an indicia wall which extends longitudinally along a container body. The rejection compares element 16 of Froelich with the container body of the present invention

and element 34 with the surface accommodating optically readable information. Applicant notes that element 34 of Froelich is not equivalent to the indicia wall of claim 21, since element 34 of Froelich does not extend longitudinally along a container body. It is quite clear from Figs. 1, 3 and 6 of Froelich, that element 34 does not have the same relative positioning as the indicia wall set forth in new claim 19, and shown in the figures of the present application. Therefore the longitudinally extending indicia wall causes new claim 19 to not be anticipated by Froelich. Applicant also notes that Froelich teaches a completely different type of cuvette and Applicant finds no teaching nor suggestion to provide a longitudinally extending indicia wall in cuvette. Claim 19 therefore cannot be considered obvious in view of cuvette.

The dependent claims 20 - 24 and 2 - 9 and 12 - 15 set forth further features of the indicia wall, and its relative position to the container body. These further relationships between the indicia wall and the container body are not taught nor suggested in Froelich and therefore these claims also cannot be anticipated, or obvious in view of Froelich.

Applicant notes that Froelich has extremely limited surfaces such as element 34, with dimensions that are even smaller than those of the cuvette. The cuvettes of Froelich are very small to start with and therefore element 34 provides a very small area to receive information. Also the way in which Froelich provides the information is very limited, as shown in Figs. 8 and 11 of Froelich. Element 34 of Froelich can therefore only hold a few different values of information. This is disadvantageous, especially when a large number of samples need to be examined. Froelich does show several elements 34, however the

more elements 34 are provided, the more space and the larger the cuvette of Froelich becomes. With a large number of individually labeled samples, or with samples that need to be labeled with a persons name or identification number, Froelich would not be able to store all that information. If the number of elements 34 in Froelich was to be increased, it would very soon reach a limit where the size of each cuvette would become impractical.

With the present invention on the other hand, it is possible to carry out analysis of samples with very small test tubes, and to at the same time have a large amount of information stored on each of the test tubes. The area provided by the indicia wall of the present invention is large enough in many cases for a technician to apply a sticker, and to even possibly write information by hand onto the sticker and the indicia wall. All of this is not obtainable by Froelich.

Also the present invention has an advantage in that the present test tubes can be used in replacement of traditional cylindrical test tubes. This is not possible with Froelich, and is a further advantage of the present invention over Froelich.

The test tubes of the present invention are able to store large amounts of information, and at the same time be optically analyzed and processed. The present invention allows for a mass processing of a large amount of individual test tubes and therefore a lower analysis cost per test tube. This is an improvement over the prior art. Applicant respectfully requests patent protection for this improvement.

Claim 24 further sets forth that the indicia wall extends in a plane substantially parallel to the longitudinal axis of the container body. Element 34 of Froelich does not

extend in a plane substantially parallel to a longitudinal axis of a container body, and therefore claim 24 further defines over Froelich.

The indicia reader of claim 24 is also not taught nor suggested in the prior art, especially in combination with an indicia wall that extends from a container body and is substantially parallel to a longitudinal axis. Applicant has found this combination to be very beneficial. A large amount of data can be provided on a container body without significantly increasing the size of the container body. Also the indicia reader can be compactly arranged adjacent the optical detector, so that the whole apparatus takes up very little space. More equipment can therefore be provided in a laboratory or a laboratory can be made smaller. This is very important when a laboratory is analyzing infectious samples. It is only the present invention which describes this combination and relative positioning of an indicia wall with an indicia reader.

If the Examiner has any comments or suggestions which would further favorable prosecution of this application, the Examiner is invited to contact Applicant's representative by telephone to discuss possible changes.

At this time Applicant respectfully requests reconsideration of this application, and based on the above amendments and remarks, respectfully solicits allowance of this application.

Respectfully submitted
for Applicant,

By:

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Enclosed: Abstract of the Disclosure

DATED: JANUARY 22, 2001
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Claims

1. Test tube for biological analyses of organic liquids using electro-optical equipment in general, having
5 a container body with a liquid-containing cavity defined by walls comprising zones located opposite one another and capable of being passed through by the rays of an optical analysing system, and a connecting part for filling, characterized in that it comprises moreover at least one surface, which is developed so as not to interfere with said zones located opposite one another and on which surface information which can be optically read, such as bar codes or the like, may be accommodated.

2. Test tube according to Claim 1, characterized in
15 that said surface or surfaces and said container body have, in cross-section, a form contained in a circular volume.

3. Test tube according to Claim 1 or 2, in which the container body (1) has a cavity (3) which is essentially prismatic and has an essentially rectangular cross-section, and a cylindrical connecting part (5) for filling, characterized in that it has at least one surface projecting from said container body.

4. Test tube according to Claim 1 or 2 or 3, characterized in that said surface is a portion of a cylindrical wall, also forming one of the walls of the container body (Fig. 7).

5. Test tube according to Claim 1 or 2 or 3, characterized in that said surface is formed by a flat laminar zone projecting from the said container body.

30 6. Test tube according to Claim 1 or 2 or 3, characterized in that said surface is formed by a flat laminar zone (7) developed as an extension of one of the walls of the said cavity parallel to the direction (F) of the rays of an optical analysing system.

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7. Test tube according to Claim 6, characterized in that said laminar zone (7) extends symmetrically on opposite sides of the essentially prismatic cavity (3).

8. Test tube according to Claims 6 or 7,
5 characterized in that the longitudinal edges (7A, 7B) of said laminar zone and an additional projection (7C) located at a distance from said edges define a volume of the test tube contained and centred in a cylindrical housing.

9. Test tube according to Claim 8, characterized in
10 that said projection (7C) is longitudinal and is developed along the plane of symmetry perpendicular to said laminar zone (7).

10. Test tube according to Claim 1 or 2 or 3,
characterized in that the container body is cylindrical and
15 has at least one surface projecting from said container body.

11. Test tube according to Claim 10, characterized in that said surface is formed by at least one flat laminar zone projecting from said cylindrical container body.

20 12. Test tube according to Claim 11, characterized in that said flat laminar zone projects tangentially from the cylindrical body.

13. Test tube according to Claim 12, characterized in
that said flat laminar zone projects on opposite sides of
25 the cylindrical body.

14. Test tube according to at least Claim 11,
characterized in that it comprises two flat laminar zones which are essentially parallel and spaced from one another.

15. Test tube according to Claim 1, with a container
30 body which has an essentially prismatic shape and a rectangular cross-section, characterized in that a bar code is applied onto at least one of the walls essentially parallel to the rays of the optical analysing system.

16. Apparatus for carrying out analyses of the type
35 for determining the sedimentation velocity of particles in

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organic liquids, comprising means for receiving a plurality of test tubes and comprising optical reading means mounted on a slide designed to travel along the test tubes which are housed inside the apparatus, characterized in that it
5 comprises on said slide also means for reading data, such as a bar code, located on the carrying surface of these test tubes.

17. Apparatus according to Claim 16, characterized in that said data reading means are positioned so as to
10 perform reading in a direction parallel to the walls of the test tube which are passed through by the rays of the optical analysing system.

18. Apparatus according to Claim 16 or 17,
characterized in that each of the seats designed to contain
15 the test tubes has a longitudinal opening designed to allow reading - by the reading means - of a bar code applied onto one of the surfaces of the test tube.

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